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KD-Validated Anti-ATG7 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1057

Specification

KD-Validated Anti-ATG7 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	O95352
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 78 kDa, observed, 70 kDa KDa**
Gene Name	**ATG7**
Aliases	**ATG7; Autophagy Related 7; Ubiquitin-Activating Enzyme E1-Like Protein; Ubiquitin-Like Modifier-Activating Enzyme ATG7; ATG12-Activating Enzyme E1 ATG7; APG7L; HAGP7; ATG7 Autophagy Related 7 Homolog (S. Cerevisiae); APG7 Autophagy 7-Like (S. Cerevisiae); Autophagy-Related Protein 7; APG7 Autophagy 7-Like; APG7-LIKE; APG7-Like; GSA7**
Immunogen	**A synthesized peptide derived from human Atg7 (Apg7)**

KD-Validated Anti-ATG7 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**10533**

Other Names
Ubiquitin-like modifier-activating enzyme ATG7, ATG12-activating enzyme E1 ATG7, Autophagy-related protein 7, APG7-like, hAGP7, Ubiquitin-activating enzyme E1-like protein, ATG7 (HGNC:16935), APG7L

KD-Validated Anti-ATG7 Rabbit Monoclonal Antibody - Protein Information

Name ATG7 (HGNC:16935)

Synonyms APG7L

Function
E1-like activating enzyme involved in the 2 ubiquitin-like systems required for cytoplasm to vacuole transport (Cvt) and autophagy. Activates ATG12 for its conjugation with ATG5 as well as the ATG8 family proteins for their conjugation with phosphatidylethanolamine. Both systems are needed for the ATG8 association to Cvt vesicles and autophagosomes membranes. Required for autophagic death induced by caspase-8 inhibition. Facilitates LC3-I lipidation with phosphatidylethanolamine to form LC3-II which is found on autophagosomal membranes

(PubMed:34161705). Required for mitophagy which contributes to regulate mitochondrial quantity and quality by eliminating the mitochondria to a basal level to fulfill cellular energy requirements and preventing excess ROS production. Modulates p53/TP53 activity to regulate cell cycle and survival during metabolic stress. Also plays a key role in the maintenance of axonal homeostasis, the prevention of axonal degeneration, the maintenance of hematopoietic stem cells, the formation of Paneth cell granules, as well as in adipose differentiation. Plays a role in regulating the liver clock and glucose metabolism by mediating the autophagic degradation of CRY1 (clock repressor) in a time-dependent manner (By similarity).

Cellular Location
Cytoplasm. Preautophagosomal structure. Note=Also localizes to discrete punctae along the ciliary axoneme and to the base of the ciliary axoneme

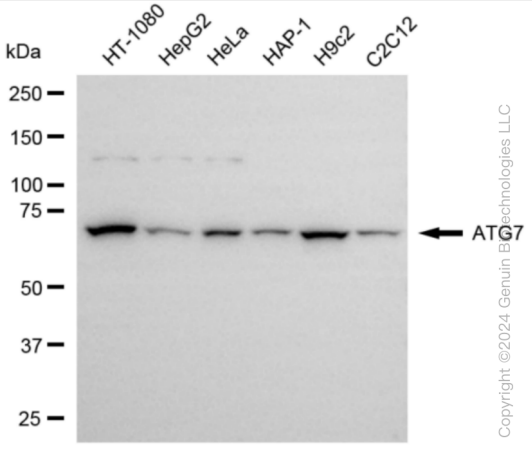
Tissue Location
Widely expressed, especially in kidney, liver, lymph nodes and bone marrow.

KD-Validated Anti-ATG7 Rabbit Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KD-Validated Anti-ATG7 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-ATG7 antibody (Cat#AGI1057). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-ATG7 antibody (Cat#AGI1057, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.

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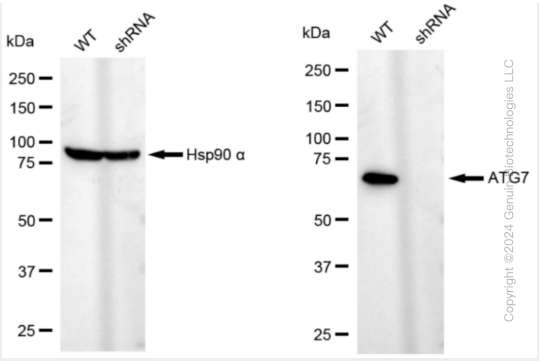
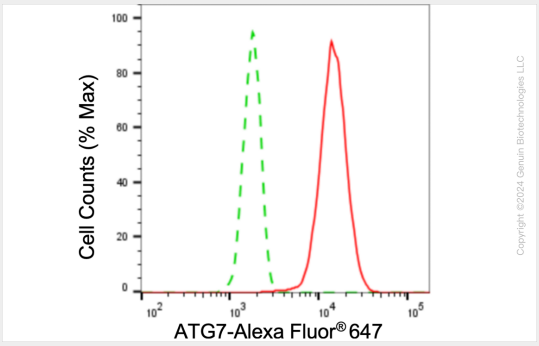
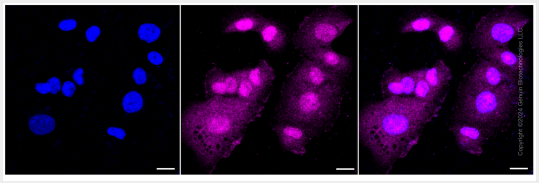


Western blotting analysis using anti-ATG7 antibody (Cat#AGI1057). ATG7 expression in wild type (WT) and ATG7 shRNA knockdown (KD) 293T cells with 20 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with anti-ATG7 antibody (Cat#AGI1057, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of ATG7 expression in HT-1080 cells using ATG7 antibody (Cat#AGI1057, 1:2,000). Green, isotype control; red, ATG7.



Immunocytochemical staining of HT-1080 cells with ATG7 antibody (Cat#AGI1057, 1:1,000). Nuclei were stained blue with DAPI; ATG7 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.